Ebola Virus Testing at the Washington State Public Health Laboratories (WAPHL) October 15, 2014

The WAPHL performs Ebola virus testing by PCR only after approval from the Centers for Disease Control and Prevention (CDC). Testing is performed using real-time reverse transcriptase polymerase chain reaction (rRT-PCR) assays developed by the CDC. If Ebola virus disease is suspected: isolate the patient in a single room, implement standard, contact and droplet precautions, and notify facility infection control. Immediately report suspected cases to a public health agency.

After approval from the local health jurisdiction and Department of Health consultation with CDC, WAPHL will perform Ebola testing on specimens from persons with:

1. High risk exposure AND Either fever of greater than 38.6° C or 101.5° F or compatible symptoms without fever
2. Low risk exposure AND Either fever of greater than 38.6° C or 101.5° F or compatible symptoms without fever
3. Optional testing (consultation with local health jurisdiction) may be considered for:
    a. High or low risk exposure AND Fever or other compatible symptoms AND Normal or unavailable bloodwork
    b. No risk exposure AND fever AND Other compatible symptoms AND Thrombocytopenia < 150,000 or elevated transaminases

High risk: known exposure (percutaneous, mucous membrane, direct skin contact, laboratory specimen handling, participation in funeral) with suspect or confirmed Ebola case without personal protective equipment (PPE)
Low risk: present in an Ebola care area for prolonged period without PPE, household or brief contact (e.g., shaking hands) without high risk exposure

Specimen Collection

The following specimen types are acceptable for Ebola virus testing at WAPHL:

- Two samples of a minimum volume of 4mL whole blood or plasma (not serum) collected in lavender-top EDTA ***plastic*** collection tubes can be submitted for Ebola virus testing. Specimens 3 days or later into illness are preferred. Do not submit specimens in glass containers. Do not submit specimens preserved in heparin tubes. Specimens should be stored at 4°C or if shipping is delayed for more than 72 hours store frozen.

The following specimen types are acceptable for Ebola virus testing at CDC:

- Specimens other than EDTA blood including other whole blood, serum and tissue may be submitted upon Department of Health consultation with the CDC.

Key points for specimen collection:

- Collect specimens using appropriate infection control procedures.
- Label vial with patient's name and a second identifier, specimen source, and date obtained.
- **Specimen Storage**: Optimal testing with freshly-collected specimens stored and shipped refrigerated (2–8°C) that arrive for processing within 72 hours of collection. If unable to ship the specimen for arrival within 72 hours of collection, freeze the specimen at ≤ -70°C and shipped on dry ice.

Safe handling of specimens for persons under investigation for Ebola virus disease

For CDC recommendations about safe laboratory handling of specimens, see:
http://www.cdc.gov/vhf/ebola/hcp/safe-specimen-management.html

Storage, packaging, and shipping of specimens

All persons shipping packages containing medical specimens must have documented shipping training (USDOT and USPS Regulations for Packaging and Labeling Infectious Substances). For assistance contact PHL at 206-418-5458 or chuck.talburt@doh.wa.gov.

WAPHL receive specimens Mon – Fri 8 am to 5 pm. Specimens that arrive on Saturdays or holidays will be received the next business day unless prior arrangements were made. If this delays specimen processing > 72 hours from collection, freeze specimen and ship on dry ice. Ship specimens to:

Washington State Public Health Laboratories
Attn: BT Lab
1610 NE 150th Street
Shoreline, WA 98155

It is your responsibility as shipper to correctly package and label specimens to meet shipping regulations. **Please follow these steps:**

- Check that the transport tube cap is securely closed; place tube in Biohazard Ziploc bag with a piece of super absorbent paper (bag and absorbent paper supplied with each transport Kit).
- Complete WAPHL Virology Specimen Submission Form. **Specimens will not be processed until ALL following information is known**:
  - Patient name, second identifier, and county of residence
  - Specimen type, date of collection and test requested
  - Submitter name, address, and telephone/FAX numbers
- Ensure patient's name and second identifier are on specimen tube and **match** information on specimen submission form.
- Place completed WAPHL Virology Specimen Submission Form in OUTER pouch of Biohazard Ziploc bag (one specimen and one submission form per bag). Do not place any paperwork in the inner pouch along with the vial.
- All specimens sent for Ebola testing must be packaged and shipped Category A according to USDOT and ICAO/IATA regulations
- Currently, there are two options for submitting suspect Ebola specimens to the WAPHL, FedEx and Private Couriers. The WAPHL does not have a courier system nor does it have the ability to pick up specimens.
  - FedEx
    - Specimens **CONFIRMED** to be Ebola **WILL NOT** be accepted by FedEx.
    - Specimens sent to the WAPHL are **suspected** to contain Ebola and therefore will be accepted by FedEx if packaged and labeled properly.
    - When completing the Shipper's Declaration For Dangerous Goods form, the "Proper Shipping Name" field should read as follows, "suspected Category A infectious substance". The Authorization code is A140.
    - See the CDC website for additional information: http://www.cdc.gov/vhf/ebola/hcp/interim-guidance-specimen-collection-submission-patients-suspected-infection-ebola.html
  - Private couriers.
    - All category A shipping regulations still apply.

WAPHL testing procedures

Test results turnaround time: Projected time for preliminary results for Ebola testing will be telephoned within 6-8 hours of testing initiation at WAPHL. Final Ebola results will be available up to five business days from specimen receipt, depending on confirmatory testing that might be required.

Reporting of test results: Test results will be reported in coordination with CDC.

QUESTIONS? Most questions should be directed to your local health jurisdiction.
Communicable Diseases Epidemiology may be reached at (206) 418-5500
WAPHL, BT Laboratory may be reached at (206) 418-5562